RESPONSE TO COMMENTS – AUGUST 8, 2006
REISSUANCE OF NPDES PERMIT NO. NH0022985
AQUATIC RESEARCH ORGANISMS, INC.
HAMPTON, NEW HAMPSHIRE

The U.S. Environmental Protection Agency (EPA-New England) and the New Hampshire Department of Environmental Services, Water Division (NHDES-WD) solicited public comments from April 24, 2006 through May 23, 2006 on the draft National Pollutant Discharge Elimination System (NPDES) permit to be reissued to Aquatic Research Organisms, Inc. (ARO).

EPA-New England received one set of comments during the public notice (comment) period from ARO dated May 22, 2006. The following is a list of the responses to those comments and any changes made to the public-noticed permit as a result of those comments. A copy of the final permit may be obtained by writing or calling Dan Arsenault, United States Environmental Protection Agency, 1 Congress Street, Suite 1100 (CMP), Boston, Massachusetts 02114-2023; Telephone (617) 918-1562. Copies may also be obtained from http://www.epa.gov/region1/npdes/index.html.

Comments from ARO

COMMENT NO. 1:

Superscripts (4) and (5) of Page 2 state fecal coliform and Enterococci bacteria testing analysis is to be done using the Most Probable Number Method (9221 C). ARO has been using the Membrane Filtration Method (9222 D) for reporting bacteria counts since permit NH0022985 was issued in February 1998. ARO requests the continued use of this method (9222 D) for bacterial sampling in the new permit.

RESPONSE NO.1:

The requirement to perform fecal coliform testing using Method 9221 C has been removed from the permit. Testing may be performed using either the Most Probable Number Method (9221 C) or the Membrane Filtration Method (9222 D). Enterococci bacteria testing may be performed using Method 9230 B or Method 9230 C. These methods can be found in Standard Methods for the Examination of Water and Wastewater, 20th Edition.

COMMENT NO. 2:

According to N.H.RSA 485-A:8.V. Enterococci bacteria testing is required in tidal waters utilized for swimming purposes. Since there is no swimming area present near the outfall ARO requests that this monitoring requirement be deleted from the permit or reduced to a

seasonal basis during the summer months when swimming would be more likely to occur.

RESPONSE NO. 2:

Under NH R.S.A 485-A:8.II Class B waters shall be considered acceptable for fishing, swimming, and other recreational purposes and, after adequate treatment, for the use as water supplies. For tidal waters utilized for swimming purposes, NH R.S.A 485-A:8.V states that these waters shall contain not more than either a geometric mean based on at least 3 samples obtained over a 60 day period of 35 Enterococci per 100 milliliters, or 104 Enterococci per 100 milliliters in any one sample, unless naturally occurring.

While there are no obvious swimming areas on the Taylor River in the area of the outfall or immediately downstream, it is the duty of EPA to ensure that any permit issued will protect and maintain the designated uses of the receiving water. Since the historical data has shown increases in Enterococci from the influent to the effluent, EPA believes that it is appropriate to require Enterococci monitoring in the permit.

With respect to seasonal monitoring for Enterococci, New Hampshire Water Quality Standards do not establish seasonal periods during which the standards may or may not be required. Therefore, the monitoring requirement will remain year round.

COMMENT NO. 3:

ARO recommends that a provision be added to the permit that would eliminate the testing for formaldehyde after two (2) years if the test results remain 100 times lower than the set permit limits. Formalin, the source of formaldehyde, is used at this facility in two ways. First, it is used on a daily basis for the disinfection of fish eggs. The concentration for this application is 26 mg/l. The second use is as a prophylactic on infected fish. This use occurs less than ten times per year and the concentration is 260 mg/l. Given the dilution provided by other waste streams and by the Taylor River ARO asserts that it is not possible for the facility to exceed limits for formaldehyde.

RESPONSE NO. 3:

For other facilities in New England which use Formalin, EPA has imposed permit limits on formaldehyde using an acute criteria of 1.61 mg/l and a chronic criteria of 4.58 mg/l. Based upon these criteria and the dilution factor of 100, the monthly average and daily maximum limits in the permit would be 161 and 458 mg/l, respectively. Effluent monitoring data from October 18 and 19, 2005 showed formaldehyde concentrations of 0.140 and 0.045 mg/l, respectively. Since the concentration of formaldehyde in the effluent is significantly lower than applicable limits, EPA agrees with ARO that if 8 consecutive tests (4 per year) show that the formaldehyde concentration remains less than 1.61 mg/l (100 times less than an applicable chronic limit) then the monitoring requirement will be deleted from the permit. This provision has been added to the permit as a footnote to the formaldehyde monitoring requirement.

COMMENT NO. 4:

ARO states that it will attempt to comply with the requirement to video tape the outfall diffuser on an annual basis however the Taylor River is high in turbidity which makes it difficult to video tape the outfall. Another problem is that the plume of effluent coming out of the pinch valves on the risers cannot be seen. ARO discharges less than 100 gallons of effluent on a pumping cycle and then the effluent gravity flows down several hundred feet of 6 inch pipe before reaching the diffuser at the bottom of the river. There is very little force behind the effluent as it flows out the three risers. Because of this, ARO states that a visible plume cannot be detected from the pinch valves. For these reasons, ARO requests that still pictures be allowed to fulfill the permit condition if video taping is unsuccessful.

RESPONSE NO. 4:

Videotaping of the outfall diffuser remains a requirement of the permit. EPA understands the turbidity issues and the small flow from the facility which make it difficult to video tape and/or photograph the effluent exiting the diffuser. In order to overcome this problem EPA is requiring that a dye such as Rhodamine WT, or similar product, be added to effluent so that it will be visible coming out of the diffuser. The permit has also been conditioned so that ARO will contact EPA and NH DES-WD at least 7 days prior to the diver inspection of the outfall diffuser and use of the dye.

COMMENT NO. 5:

ARO shares Outfall 001 with EnviroSystems, Inc (NPDES Permit No. NH0022055). EnviroSystems requested, and received, a waiver from the required effluent pH range of 6.5 to 8.0 S.U. to 6.5 to 8.25 S.U.. Since ARO's effluent does run in the upper 7 ranges it has requested that the pH range for the draft permit be modified to 6.5 to 8.25 S.U. to ensure that no violations would occur.

RESPONSE NO. 5:

NH R.S.A 485-A:8.II states that the pH range for Class B waters shall be 6.5 to 8.0 except when due to natural causes. However, this pH range can be modified according to the procedure described in Section I.E.1.a of the permit.

For the period March 31, 2000 through October 31, 2005, ARO had one exceedance of the daily maximum pH limit of 8.0. This occurred in July 2004 and the effluent pH was 8.06. During this same time period, EnviroSystems had numerous pH exceedances. Because of problems with meeting the pH limits of the permit, ESI notified the NHDES and went through the pH adjustment procedure outlined in the permit. This resulted in the upper boundary of the pH limit being raised to 8.25.

Because ARO has complied with the current pH limit, EPA does not deem it necessary to adjust the limits. If issues arise in the future with complying with the current limit, ARO should follow the pH adjustment procedure outlined in Section I.E.1.a of the permit.